

MVBD2520 Blu-Ray Player



User Manual

CONTENTS

Contents1			
Important Safety Instructions2			
Features4			
Precautions			
Po	wer Source	5	
Lo	cation of Controls	6	
•	Front	6	
•	Rear	6	
•	Remote	7	
Re	emote Control	8	
•	Battery Installation	8	
•	Effective Distance of the Remote		
	Control Transmitter	8	
Co	onnection	9	
•	Connecting the Player to a TV Using the		
	Audio/Video Output Jacks	9	
•	Connecting the Player to a TV Using the		
	Y/Pb/Pr Jacks	10	
•	Progressive (Y, Pb, Pr) Video Output	10	
•	Connecting the Player to a TV Using the		
	HDMI Output Jack	11	
•	Connecting the Player to a TV and Receiver		
	Using the HDMI Output Jack	12	
•	Connecting the Player to a TV Using a		
	DVI Cable	13	
•	Connecting the Player to a Home Theater		
	System (via Coaxial or Optical Jack)	14	
•	Connecting the Player to the Network	15	
BD)-Live	16	
Ab	oout Discs	17	
Se	tup Menu	19	
•	General Setup Menu	19	
•	Video Setup Menu	20	
•	Audio Setup Menu	22	
•	Language Setup Menu	23	
•	Parental Control Options	24	
•	Network Setup Menu	27	
Basic Operation (General)29			
•	HDMI Reset	29	
•	Color Buttons	29	
•	Dimmer	29	

BD/DVD Operation30			
•	Playback of a Blu-ray Disc or DVD	30	
•	Skip	31	
•	Search	31	
•	Pause/Step	31	
•	Slow Motion	31	
•	Disc Menu Button	32	
•	Audio	32	
•	Time Search	32	
•	SKIP Button	33	
•	Display/Info Button	33	
•	PIP (Picture in Picture)	33	
•	Sub Menu Button	34	
•	Popup Menu	35	
CE	Operation	36	
•	Playback of a CD	36	
•	Selecting Tracks/Files Using the		
	Number Buttons	37	
•	Selecting Tracks/Files Using the SKIP		
	Buttons	37	
•	Forward/Reverse Search	37	
•	SKIP Button	37	
•	A-B Repeat Playback	38	
•	Display/Info Button	38	
•	Sub Menu Button	38	
Da	ta CD/USB/SD Card Operation	39	
•	Playback of a Data CD/USB/SD Card	39	
•	MP3/WMA	40	
•	Photos (JPEG)	41	
•	Erasing BD-Live Data	42	
Firmware42			
Troubleshooting Guide4			
Ca	Care and Maintenance		
Specifications			

IMPORTANT SAFETY INSTRUCTIONS



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT

REMOVE THE COVER (OR BACK). NO USER-SERVICEABLE PARTS

ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This Caution Marking is located at the rear enclosure of the unit.



4

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



The symbol for class II (Double Insulation)

CAUTION:

THIS DIGITAL VIDEO DISC PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS OWNER'S MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

SURGE PROTECTORS:

It is recommended to use a surge protector for AC connection. Lightning and power surges ARE NOT covered under warranty for this product.

LASER WARNING:

This unit employs a laser. Only qualified service personnel should attempt to service this device due to possible eye injury.

FCC NOTICE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION:

To assure continued compliance, follow the attached installation instructions and use only shielded cables when connecting to other devices. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

ATTENTION:

POUR ÉVITER LES CHOC ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISES ET POUSSER JUSQU'AU FOND.

Manufactured under license from Dolby Laboratories.

Dolby and the double-D symbol are registered trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535 and other U.S. and worldwide patents issued and pending. DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademarks of DTS, Inc. © 1996-2008 DTS, Inc. All Rights Reserved.

This product incorporates copyright protection technology that is protected by U.S patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

IMPORTANT SAFETY INSTRUCTIONS (CONTINUED)

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below. Keep these operating instructions handy for future reference.

- 1. Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- 4. Follow all instructions.
- 5. Do not use this apparatus near water.
- 6. Clean only with dry cloth.
- 7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8. Do not install near any heat source such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- 9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the Power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11. Only use attachments/accessories specified by the manufacturer.
- 12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- (symbol provided by RETAC)

PORTABLE CART WARNING

- 13. Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled on or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
 - The apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids such as vases shall be placed on the apparatus. Maintain well-ventilated conditions around the product. Do not place on a bed, sofa, or anything that blocks ventilation.

Where the main plug is used as the disconnect device, the disconnect device shall remain readily operable.

FEATURES

This unit has many features, some are outlined below. Please read the owner's manual to take full advantage of all the features this unit has to offer.

BD-ROM Playback

BD-ROM is a next generation optical disc format in the HD era. Featuring massive storage capacity of 25 to 50 GB (five times larger than a DVD) and a high-speed transfer rate of up to 54 Mbps, this format offers not only uncompromised HD quality video*†, but also enables rich bonus content on a single disc and HD quality audio up to 8ch, and interactive operability.

- * A compatible HD display device is necessary to enjoy the same quality.
- [†] Some discs allow viewing only with an HDMI connection.

24p True Cinema

Movies shot with a film camera consist of 24 frames per second. Since conventional televisions (both CRT and flat panels) display frames either at 1/60 or 1/50 second intervals, the 24 frames do not appear at an even pace.

When connected to a TV with 24p capabilities, the player displays each frame at 1/24 second intervals — the same interval originally shot with the film camera, thus faithfully reproducing the original cinema image.

BD-J application

The BD-ROM format supports Java for interactive functions. "BD-J" offers content providers almost unlimited functionality when creating interactive BD-ROM titles. Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

BD-Live

Some BD-ROM discs labelled, "BD-Live" contain interactive information, trivia games, etc. The player must be connected to the internet as described later in this manual.

Firmware Update

Firmware is software in the player that controls the unit's microprocessor. The software (firmware) can be downloaded from **www.memorex.com** and then copied to a CD or DVD. The firmware can be updated from the CD/DVD only. We recommend updating to the latest firmware to enhance the product's operation and/or add new features.

HDMI (High-Definition Multimedia Interface) digital interface

When connected to an HDMI-equipped display device using a single HDMI cord, the player can output both SD to HD video and multi-channel audio signals, in digital form without degradation. The HDMI specification supports HDCP (High-bandwidth Digital Content Protection), a copy protection technology that incorporates coding technology for digital video signals.

PRECAUTIONS

NOTES ON HANDLING:

- When shipping the player, always use the original shipping carton and packing materials. For maximum protection, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids, such as insect spray, near the player. Do not leave rubber or plastic products in contact with the player for a long time. They will leave marks on the finish.
- The top and rear panels of the player may become warm after a long period of use. This is normal and not a malfunction.
- When the player is not in use, be sure to remove the disc and turn off the power.
- If you do not use the player for a long period, the unit may not function properly in the future. Turn on and use the player occasionally.

LOCATING THE PLAYER:

When you place this player near a TV, radio or VCR, the playback picture may become poor and the sound may be distorted. In this case, move the player away from the TV, radio or VCR.

NOTES ON CLEANING:

Use a soft, dry cloth for cleaning.

- For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry. Do not use any type of solvent, such as thinner or benzene, as it may damage the surface of the player.
- If you use a chemical-saturated cloth to clean the unit, follow that product's instructions.

Warning: Cleaning and adjustment of lenses and/or other components of playback mechanism should be performed by a qualified service technician.

TO OBTAIN A CLEAR PICTURE:

The player is a high technology, precision device. If the optical pick-up lens and disc drive parts are dirty or worn down, the picture quality becomes poor. To obtain a clear picture, we recommend regular inspection and maintenance (cleaning or parts replacement) every 1,000 hours of use depending on the operating environment. For details, contact your nearest dealer.

NOTES ON MOISTURE CONDENSATION:

Moisture condensation damages the player. Please read the following carefully.

 Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the optical pick-up lens inside this unit, one of the most crucial internal parts of the player.

Moisture condensation occurs during the following cases:

- When you bring the player directly from a cold place to a warm place.
- When you use the player in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- In summer, when you use the player in a hot and humid place just after you moved the unit from an air conditioned room.
- When you use the player in a humid place.

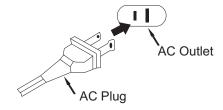
Do not use the player when moisture condensation may occur.

 If you use the player in such a situation, it may damage discs and internal parts. Remove the disc, connect the power cord of the player to the wall outlet, turn on the player and leave it "ON" for two or three hours. After two or three hours, the player will have warmed up and evaporated any moisture. Keep the player connected to the wall outlet and moisture condensation will seldom occur.

POWER SOURCE

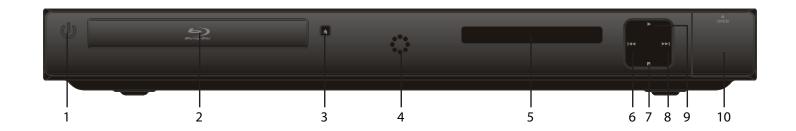
Insert the AC plug (with the 2 blades) into a conveniently located AC outlet having 120V, 60Hz.

NOTE: The AC plug supplied with the unit is polarized to help minimize the possibility of electric shock. If the AC plug does not fit into a nonpolarized AC outlet, do not file or cut the wide blade. It is the user's responsibility to have an electrician replace the obsolete outlet.



LOCATION OF CONTROLS

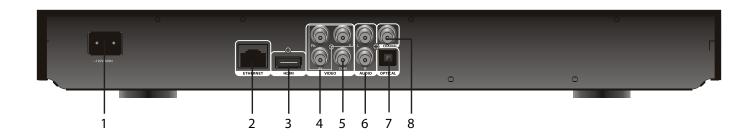
FRONT



- 1. POWER/STANDBY button
- 2. Disc Compartment
- 3. Open/Close Button
- 4. Power Indicator/Remote Sensor
- 5. Display
- 6. Skip (₩) Button

- 7. Stop (■) Button
- 8. Skip (M) Button
- 9. Play (►) Button
- 10. USB/Card Jack (Inside Compartment)

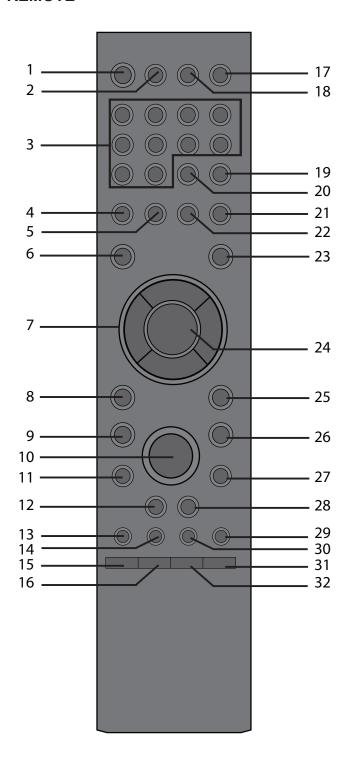
REAR



- 1. AC Power Jack
- 2. Ethernet Jack
- 3. HDMI Jack
- 4. Component Video (Y, Pb, Pr) Output Jacks
- 5. CVBS (Composite Video) Output Jack
- 6. Stereo Audio Left/Right Output Jacks
- 7. OPTICAL Output Jack
- 8. COAXIAL Output Jack

LOCATION OF CONTROLS (CONTINUED)

REMOTE



- 1. POWER/STANDBY Button
- 2. HDMI RESET Button
- 3. Number (0-9) Buttons
- 4. Red Button
- 5. Green Button
- 6. SETUP Button
- 7. Navigation (◀,▶,▼,▲) Buttons
- 8. RETURN Button
- 9. Stop (■) Button
- 10. Play (►) Button
- 11. Skip (₩) Button
- 12. SEARCH/REVERSE ◀◀ Button
- 13. AUDIO Button
- 14. SUB MENU Button
- 15. DIMMER Button
- 16. SKIP Button
- 17. OPEN/CLOSE Button
- 18. DISPLAY INFO Button
- 19. SEARCH Button
- 20. CANCEL Button
- 21. Blue Button
- 22. Yellow Button
- 23. DISC MENU Button
- 24. ENTER Button
- 25. POPUP MENU Button
- 26. PAUSE (II) Button
- 27. Skip (►) Button
- 28. SEARCH/FORWARD ▶▶ Button
- 29. PIP (Picture-In-Picture) Button
- 30. USB/SD Button
- 31. ZOOM Button
- 32. Repeat A-B Button

REMOTE CONTROL PART NO. 52RE1-211001-00R*
BATTERY COVER PART NO. 12CA7-217A03-00R*
A/V RCA CABLE PART NO. 13WE1-311200-10R*

^{*}Consumer Replaceable Part (See page 44 to order.)

REMOTE CONTROL

BATTERY INSTALLATION



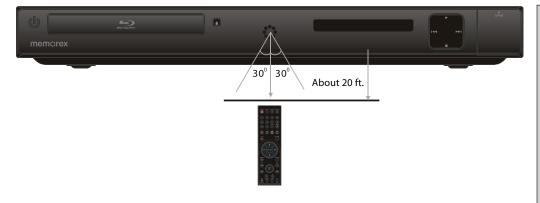
- 1. Remove the Battery Compartment cover by pushing in on the tab and then lifting the cover off.
- 2. Install two (2) "AAA" batteries, paying attention to the polarity diagram in the battery compartment.
- 3. Replace the Battery Compartment cover.

BATTERY PRECAUTIONS

Follow these precautions when using batteries in this device:

- 1. Use only the size and type of batteries specified.
- 2. Be sure to follow the correct polarity when installing the batteries as indicated in the Battery Compartment. A reversed battery may cause damage to the device.
- 3. Do not mix different types of batteries together (e.g. Alkaline, Rechargeable, and Carbon-zinc) or old batteries with fresh ones.
- 4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
- 5. Do not try to recharge a battery not intended to be recharged; it can overheat and rupture. (Follow battery manufacturer's directions.)

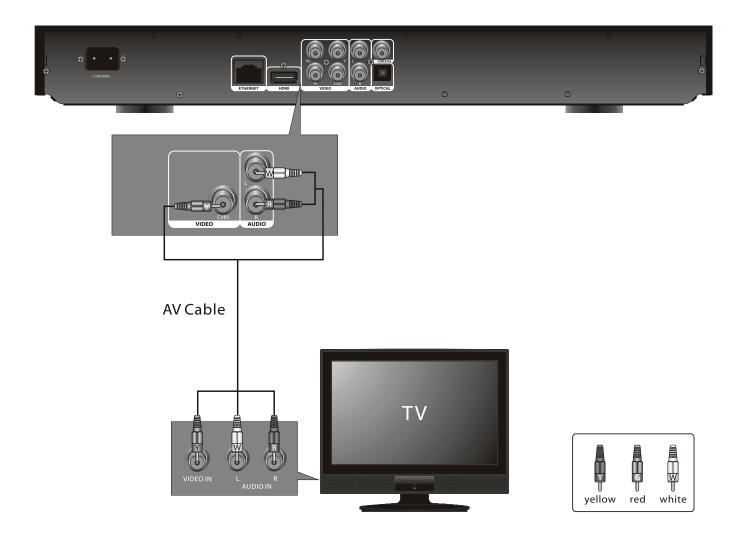
EFFECTIVE DISTANCE OF THE REMOTE CONTROL TRANSMITTER



- When there is an obstacle between the Player and the transmitter, the transmitter may not operate.
- When direct sunlight, an incandescent lamp, fluorescent lamp or any other strong light shines on the REMOTE SENSOR of the Player, the remote operation may be unstable.

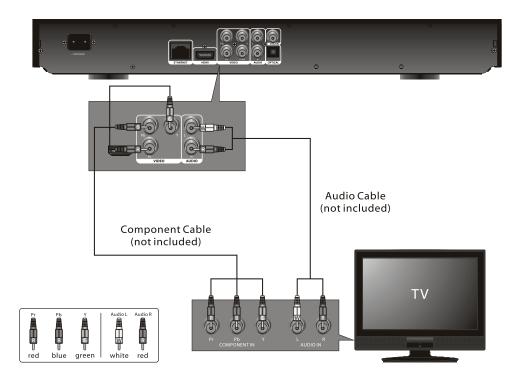
CONNECTION

CONNECTING THE PLAYER TO A TV USING THE AUDIO/VIDEO OUTPUT JACKS



- If your TV has an HDMI input, connect the player with the HDMI cable for best results, otherwise use the Component or Video OUT jack on the player.
- Set the TV's TV/VIDEO button or switch to the VIDEO setting.
- · When connecting the Player, refer to the owner's manual of the TV, as well as this manual.
- When connecting the Player to the TV, make sure the power is off and both units are unplugged before making any connections.
- If your TV only has one audio input, the use of a "Y" connector may be necessary. Visit your local electronics supply store.
- Connect the player to your TV directly. If you connect the player through a VCR, the playback picture will be distorted because video discs are copy protected.

CONNECTING THE PLAYER TO A TV USING THE Y/Pb/Pr JACKS



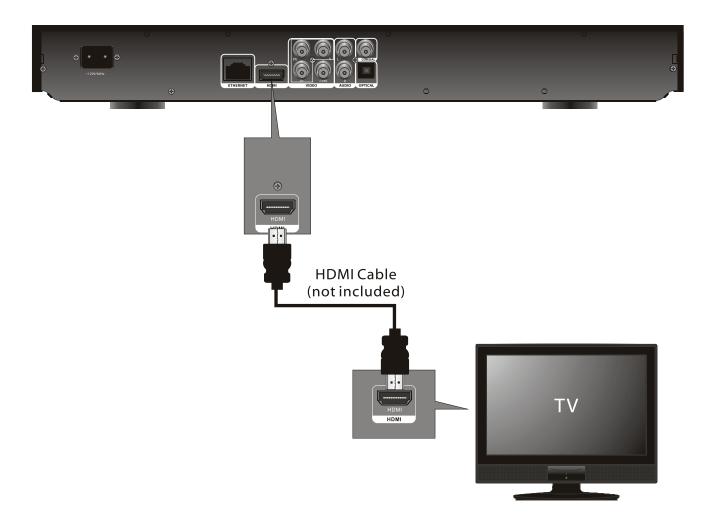
NOTES FOR CONNECTING TO A TV:

- If your TV has an HDMI input, connect the player with the HDMI cable for best results, otherwise use the Component or Video OUT jack on the player.
- TV must have Y, Pb and Pr input jacks.
- Set the TV's TV/VIDEO button or switch to the VIDEO setting.
- When connecting the Player, refer to the owner's manual of the TV, as well as this manual.
- When connecting the Player to the TV, make sure the power is off and both units are unplugged before making any connections.
- Connect the player to your TV directly. If you connect the player through a VCR, the playback picture will be distorted because video discs are copy protected.
- If using a TV with a blue screen option, turn the option off, on the TV for best results.
- If the TV display shows "No Signal" or is blank after connecting the Y, Pb and Pr, use the Video Out connection as shown on the previous page.

PROGRESSIVE (Y, Pb, Pr) VIDEO OUTPUT:

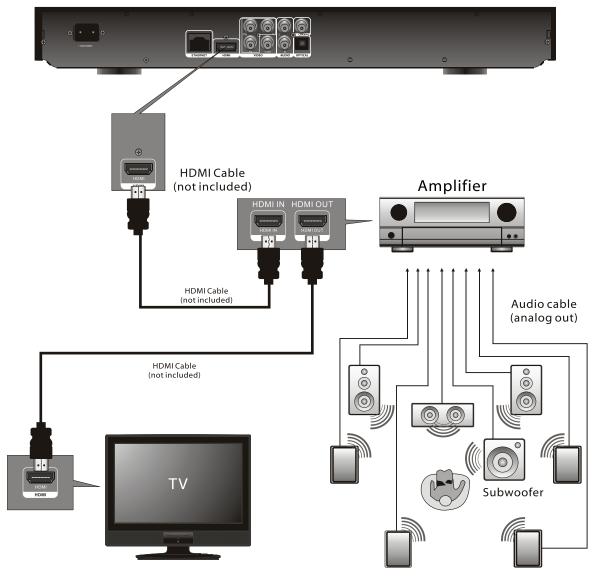
Use these jacks to connect to a TV with progressive video input jacks. Progressive scan is a video scanning system that displays all lines in a frame in one pass, as opposed to the traditional system, interlaced scan. This connection provides optimum quality. To ensure optimum picture quality, use three video-grade cables for connections. Note that it is essential to match the color-coded connectors with a compatible TV.

CONNECTING THE PLAYER TO A TV USING THE HDMI OUTPUT JACK



- If your TV has an HDMI input, connect the player with the HDMI cable for best results, otherwise use the Component or Video OUT jack on the player.
- Set the TV's TV/VIDEO button or switch to the VIDEO setting.
- When connecting the Player, refer to the owner's manual of the TV, as well as this manual.
- When connecting the Player to the TV, make sure the power is off and both units are unplugged before making any connections.
- Connect the player to your TV directly. If you connect the player through a VCR, the playback picture will be distorted because video discs are copy protected.
- When using HDMI as your source, setup the HD resolution in the Video menu as described on page 21 and the Digital Output in the Audio menu as described on page 22.
- When you connect the HDMI cable to a TV for the first time, the HDMI output resolution will be automatically set to the highest provided by the TV.
- If connecting to a Receiver and TV that have an HDMI jack, please see the next page.
- Depending on your TV, some HDMI resolutions may not work.

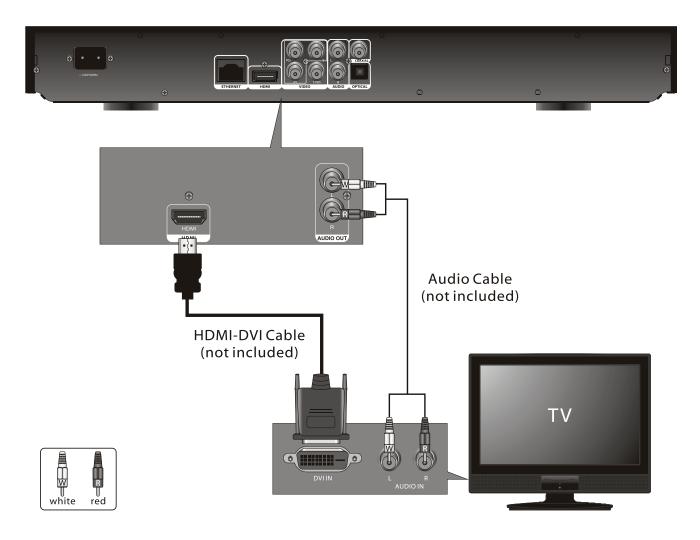
CONNECTING THE PLAYER TO A TV AND RECEIVER USING THE HDMI OUTPUT JACKS



7.1 / 5.1 Speaker System

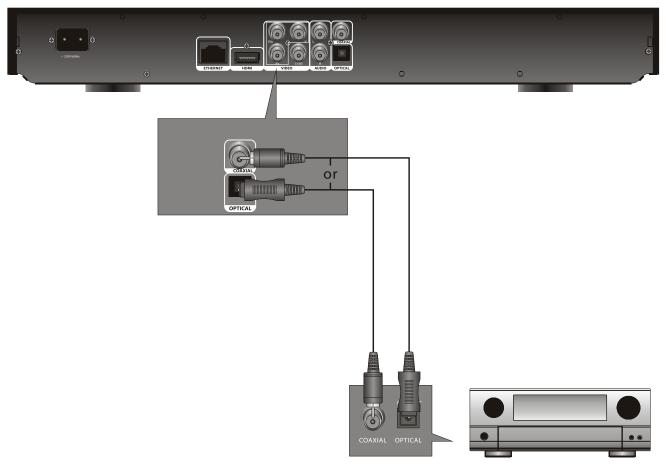
- If your TV has an HDMI input, connect the player with the HDMI cable for best results, otherwise use the Component or Video OUT jack on the player.
- Set the TV's TV/VIDEO button or switch to the VIDEO setting.
- When connecting the Player, refer to the owner's manual of the TV and receiver, as well as this manual.
- When connecting the Player to the TV and receiver, make sure the power is off and both units are unplugged before making any connections.
- When using HDMI as your source, setup the HD resolution in the Video menu as described on page 21 and the Digital Output in the Audio menu as described on page 22.
- Depending on your TV, some HDMI resolutions may not work.

CONNECTING THE PLAYER TO A TV USING A DVI CABLE



- Set the TV's TV/VIDEO button or switch to the VIDEO setting.
- When connecting the Player, refer to the owner's manual of the TV, as well as this manual.
- When connecting the Player to the TV, make sure the power is off and both units are unplugged before making any connections.
- Connect the player to your TV directly. If you connect the player through a VCR, the playback picture will be distorted because video discs are copy protected.
- When using HDMI as your source, setup the HD resolution in the Video menu as described on page 21.
- When you connect the HDMI cable to a TV for the first time, the HDMI output resolution will be automatically set to the highest provided by the TV.
- Depending on your TV, some HDMI resolutions may not work.

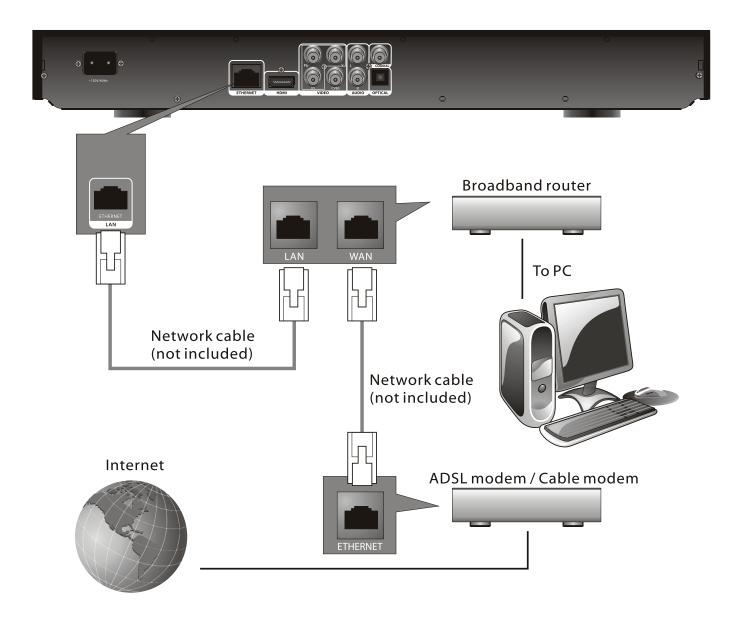
CONNECTING THE PLAYER TO A HOME THEATER SYSTEM (VIA COAXIAL OR OPTICAL JACK)



2-Channel stereo amplifier

- When connecting the Player, refer to the owner's manuals for the TV and the audio system, as well as this manual.
- When connecting, make sure the power is off and all units are unplugged before making any connections.
- Connect the player to your TV directly. If you connect the player through a VCR, the playback picture will be distorted because video discs are copy protected.
- If you place the player near a tuner, the radio broadcast sound might be distorted. In this case, move the player away from the tuner.
- When using this connection, Blu-ray Discs with an LPCM audio soundtrack will only be heard over the two front channels.

CONNECTING TO THE NETWORK



CONNECTING TO A LAN (To utilize BD-Live)

By connecting this unit to a broadband connection, this unit can support the BD-Live feature offered on some movie titles. BD-Live offers additional interactive media and games that are associated with the movie title.

- 1. Connect the LAN (100) terminal of the player to your internet source from the broadband router directly. Refer to the instructions that came with the router.
- 2. Make the appropriate setting; see Network Setting section on page 27.

- For details on the network (LAN), refer to the operating instructions supplied with the modem or router.
- · See page 16 for FAQs and information on BD-Live.

BD-LIVE

ENJOYING Bonus View and BD-Live

Some BD-ROMS (labelled BD-Live) have bonus content and other data that can be downloaded to local storage for enjoyment as follows:

- 1. Turn the player off.
- 2. Connect the player to a network as described on the previous pages.
- 3. Insert an SD card with a minimum of 1GB. (If the SD card is smaller than 2GB, it must be set to FAT only.)
- 4. Turn the player on.
- 5. Insert a BD-Rom with Bonus View/BD-Live.
- 6. Operation will differ depending on the disc. Refer to the instructions that came with the disc. However, usually on the Title Menu screen, there is a BD-Live option. Simply select it using the Navigation (◄,►,▲,▼) buttons and then press the ENTER button to select it.

BD-Live FAQs:

Q1: What is BD-Live?

A1: BD-Live is a new Blu-ray feature that utilizes the internet to extend your movie viewing experience through downloaded content and advanced interactivity. When using this player with BD-Live enabled Blu-ray Discs, you can download a variety of up-to-date content, such as previews, trivia games, exclusive special features and more. The content will vary from disc to disc.

Q2: Do all Blu-ray Discs have this feature?

A2: BD Live is still relatively new, so make sure that the disc has the BD-Live marking on the disc packaging.

Q3: How do I access BD-Live?

A3: With a BD-Live enabled disc inserted and this unit connected to the internet, simply select the BD-Live option at the Main Title screen of the disc.

Q4: Will all discs have the same BD-Live contents?

A4: No, they will differ from disc to disc.

Q5: How do I navigate throughout the BD-Live screen?

A5: Using the Navigation buttons on the remote.

Q6: Do I need to have an external SD card inserted to use this content?

A6: Yes, the SD card must be inserted as the BD-Live content will be downloaded onto this inserted media.

Q7: How do I delete something I downloaded?

A7: See page 42 to delete an item from the SD Card.

Q8: Where can I find a list of all of the downloads on my player?

A8: The BD-Live homepage (shown when you activate Blu-ray) provides the list of downloads which can be played with the currently-inserted disc. The list on display may be different from disc to disc. Also, the Blu-ray Disc player may have a function to show the list of files on local storage, but those downloads can only be played with the specific disc which enabled the content download.

ABOUT DISCS

The region/BD-ROM codes for this player are listed on the back of the player. See the following page for information regarding region/BD-ROM codes.

PLAYABLE DISCS:

The following discs can be played back on this player:



MP3

When playing an MP3, the total number of files will appear in the display, and the TV screen will list the folders/tracks. MP3 is the abbreviation of "MPEG1 Audio Layer 3". MPEG Audio is a format that compresses the audio portion only.

IMPORTANT NOTE:

Due to many variables, including recording condition, type of disc, writing software, etc., this unit does not guarantee playback of all MP3 discs.

DISC TYPES:

DVD/BD

Data on most discs is divided into sections called "titles" and then into subsections called "chapters", each of which is given a title or chapter number. Some features of this player will not operate with some discs as they are preset. If a function you selected does not run as desired, refer to the manual accompanying the disc.

BLU-RAY NOTE: Blu-ray is a new and exciting format. Accordingly, disc compatibility issues with new and existing format discs is possible. Not all discs are compatible and not every disc will playback.

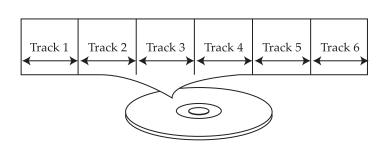
Title 1 Chapter 1 Chapter 2 Chapter 3 Chapter 4 Chapter 1 Chapter 2

AUDIO CD

Data on an audio CD is divided into sections called "tracks", each of which is given a track number.

KODAK PICTURE CD

Data on a Kodak picture CD is usually not divided into separate folders, and should appear in the root directory.



ABOUT DISCS (CONTINUED)

DVD-R/RW

This disc can be played in this player once it has been finalized by the recording unit.

IMPORTANT:

It is important that you read the manual that accompanies the disc, as there are features that are on the player that cannot be used with certain discs. There are also extra features on the disc that are different for each disc, so they are not explained in this owner's manual.

This player conforms to the NTSC and PAL color systems. However, if you are in the USA, leave this setting on NTSC. If incorrectly set to PAL, the TV picture will roll vertically. In this case, simply turn the Player off, and then back on.

Notes on Copyright:

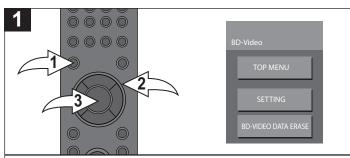
It is forbidden by law to copy, broadcast, show, broadcast on cable, play in public and rent copyrighted material without permission. Video discs are copy protected, and any recordings made from these discs will be distorted. This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only, unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Region Management Information:

This Player is designed and manufactured to respond to the Region Management Information that is recorded on a disc. If the Region number described on the disc does not correspond to the Region number of this player, this player cannot play that disc. You may not be able to play back some video discs on this player if they were purchased from outside your geographic area or made for business purposes.

SETUP MENU

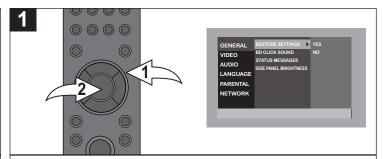
GENERAL SETUP MENU



Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

Select GENERAL using the Navigation (\blacktriangle , \blacktriangledown) buttons ②, then press the ENTER button ③ to enter the General menu. **NOTE:** Press the RETURN button to return to the previous menu.

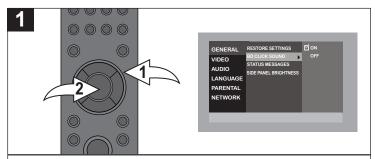
RESTORE SETTINGS



Use this option to reset all the settings to their original factory settings.

Select the General menu as shown to the left. Select RESTORE SETTINGS using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select YES using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet and press the ENTER button \bullet again to restore the settings. Select NO to leave the settings as they are.

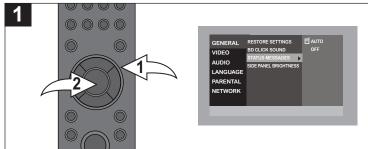
BD CLICK SOUND



Use this option to turn the BD click sound in the Pop Up menu on or off. $\,$

Select the General menu as shown above. Select BD CLICK SOUND using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select ON to turn the Pop up menu's click sound on or OFF to turn the Click sound off using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet and press the ENTER button \bullet again. This is not available on all discs.

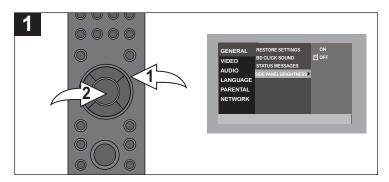
STATUS MESSAGES



Use this option to turn the on-screen display's status icons (Play, Rewind, etc) on or off.

Select the General menu as shown above. Select STATUS MESSAGES using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P , then press the ENTER button \P . Select AUTO and the Status icons will appear when used or select OFF to deactivate OSD Status messages using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P and press the ENTER button \P again.

SIDE PANEL BRIGHTNESS

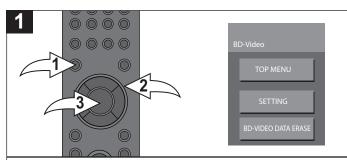


When TV is 16:9 and DVD disc is 4:3, there will be a black band at left and right sides. Use this option to make this side bar gray.

Select the General menu as shown above. Select SIDE PANEL BRIGHTNESS using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select ON to turn this black band gray or OFF to keep the black bar the same black color using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet .

NOTE: Press the SETUP button to return to the BD-Video menu. Select TOP MENU or MENU and press Enter button to return to the movie and exit the Setup menus.

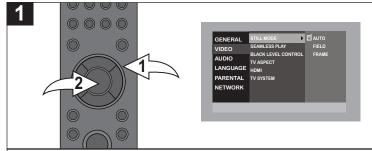
VIDEO SETUP MENU



Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

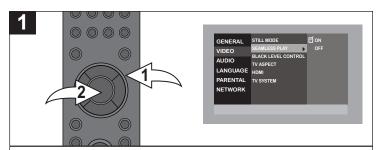
Select VIDEO using the Navigation (▲,▼) buttons ②, then press the ENTER button ③ to enter the Video menu.

STILL MODE



Use this option to set the resolution and quality in still mode. Select the Video menu as shown to the left. Select STILL MODE using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet , then press the ENTER button \bullet . Select AUTO to automatically select the best resolution setting, select FIELD when the pictures are still unstable in Auto as it will stabilize the picture, even if the quality is coarse due to the limited amount of data, or select FRAME to display relatively motionless pictures in higher resolution as it improves the picture quality, although the picture may not stabilize due to simultaneous output of two field data using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet and press the ENTER button \bullet again.

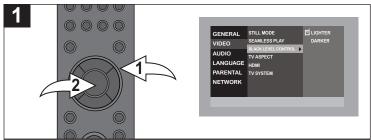
SEAMLESS PLAY



Use this option to make the segments or partially deleted items appear to play seamlessly.

Select the Video menu as shown above. Select SEAMLESS PLAY using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P , then press the ENTER button \P . Select ON and the chapters in playlists will be played seamlessly. This does not work while searching or when there are several audio types included on the playlist or select OFF to deactivate using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P and press the ENTER button \P again.

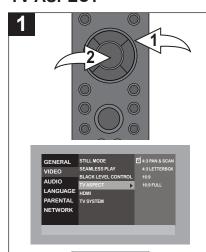
BLACK LEVEL CONTROL



Use this option to turn the black bars at the sides or top of the screen lighter when viewing 4:3 aspect or 16:9 wide screen on some DVDs.

Select the Video menu as shown above. Select BLACK LEVEL CONTROL using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select LIGHTER to lighten or DARKER for darker bars using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet and press the ENTER button \bullet again.

TV ASPECT



Use this option to set the desired TV Aspect ratio.

Select the Video menu as shown above. Select TV ASPECT using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet ; the TV ASPECT options will appear. Select one of the options (described below) using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet .

4:3 PAN-SCAN: Select when the unit is connected to a conventional TV. Video material formatted in the Pan Scan style is played back in that style (the left and right edges are cut off).

4:3 LETTERBOX: Select when the unit is connected to a conventional TV. Widescreen images are shown on the screen with a black band at the top and/or bottom.

16:9: Select when a 16:9 wide TV is connected. The 4:3 picture is displayed with an original 4:3 aspect ratio, with black bars appearing at the left and right sides.

16:9 FULL: Select when a 16:9 wide TV is connected. The 4:3 picture is adjusted horizontally (in a linear proportion) to fill the entire screen.

HDMI

1



Use this option when connected to HDMI to set the desired HDMI options. The options will be grayed out if not connected to HDMI.

RESOLUTION: Select the desired resolution to match that on your TV (480i, 480p, 720p, 1080i, 1080p, 1080p/24p). Select AUTO to have the player automatically detect the TV's resolution.

NOTE:

If you select the incorrect resolution, you can simply press the HDMI RESET button to reset it to 480p.

RGB OUTPUT RANGE: Select STANDARD to output the video as per the original source. Select ENHANCE and the player will automatically enhance the contrast when it is too low.

COLOR SPACE: Only change if you have a color problem when set to Auto. Select YCbCr: 4:4:4, YCbCr: 4:2:2 or RGB.

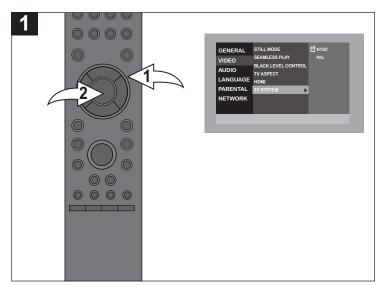
DEEP COLOR: Deep color is used to describe a method of representing graphical image data using extremely large number of shading, hues and luminosities. Select AUTO to have the unit automatically select the appropriate output which could result in a deeper color or select OFF to never use the Deep Color mode.

HIGH BITRATE AUDIO: Select AUTO to have the unit automatically select the audio output. Select ON when Auto does not output properly when the Bitrate is too high or OFF to deactivate. This is not available on all discs.

xvYCC-COLOR: This will allow you to experience color as true as the eye can measure, ensuring more detail and amazing color. Select AUTO to automatically select the xvYCC color or OFF to not use this mode.

LIP SYNC: Select ON and the unit will sync the audio with the lip movement, ensuring proper synchronization. Select OFF to turn this feature off.

TV SYSTEM



Use this option to set the desired TV System.

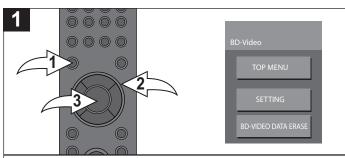
Select the Video menu as shown on the previous page. Select TV SYSTEM using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet ; the TV SYSTEM options will appear. Select one of the options (described below) using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet .

NTSC: Select when using a NTSC TV. **PAL:** Select when using a PAL TV.

IMPORTANT: In the USA, the standard is NTSC.

NOTE: Press the SETUP button to return to the BD-Video menu. Select TOP MENU or MENU and then press Enter button to return to the movie and exit the Setup menus.

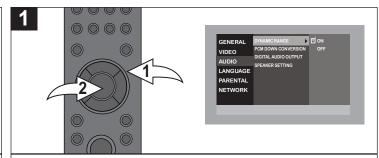
AUDIO SETUP MENU



Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

Select AUDIO using the Navigation (▲,▼) buttons ②, then press the ENTER button ③ to enter the Audio menu.

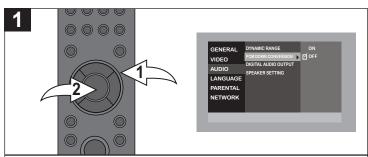
DYNAMIC RANGE



Use this option when Dolby Digital audio is being played to enhance the audio when movies are being played through small speakers or at a low volume. It will normalize low level or high level content.

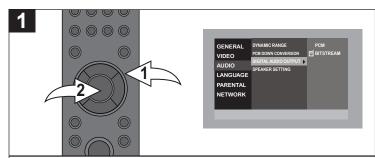
Select the Audio menu as shown to the left. Select DYNAMIC RANGE using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select ON to activate or OFF to deactivate this feature, and press the ENTER button \bullet again.

PCM DOWN CONVERSION



Use this option to turn the PCM down sampling On or Off. Some amplifiers cannot support the high sampling rate of the PCM signal. In this case, turn this option ON and the player will output at 48kHz. Select the Audio menu as shown above. Select PCM DOWN SAMPLING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button 2. Select ON for 96KHz, which will output the audio as normal. Select OFF to deactivate using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet and press the ENTER button 2 again.

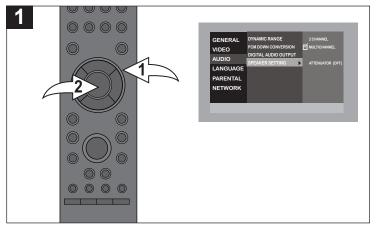
DIGITAL AUDIO OUTPUT



Use this option to select PCM or BITSTREAM.

Select the Audio menu as shown above. Select DIGITAL AUDIO OUTPUT using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button ②. Select PCM when connected to equipment that does not decode Dolby Digital or DTS. Select BITSTREAM when using an Amp/Receiver to decode the audio source using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet and press the ENTER button ② again.

SPEAKER SETTING



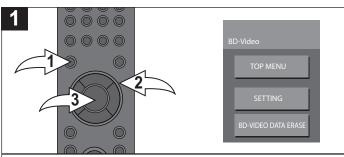
Use this option to set the desired Speaker Setting as follows: Select the Audio menu as shown above. Select SPEAKER SETTING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button 0; the options will appear. Select one of the options (described below) using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button 0.

2 CHANNEL: Select when output to a 2 channel audio system

MULTICHANNEL: Select when output to a system that has multiple channels, such as a surround sound system.

ATTENUATOR: Turn ON to lessen the audio output when the sound is too loud or OFF to deactivate.

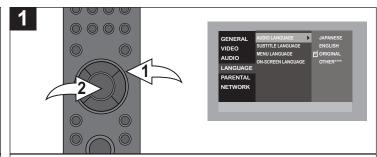
LANGUAGE SETUP MENU



Press the SETUP button • and the BD-Video Menu will appear. Select SETTING using the Navigation (▲,▼) buttons ②, then press the ENTER button ③ to enter the Main menu.

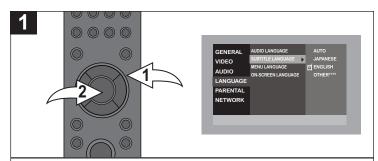
Select LANGUAGE using the Navigation (▲, ▼) buttons ②, then press the ENTER button 6 to enter the Language menu.

AUDIO LANGUAGE



Use this option to select the language the disc will be played back in. Select the Language menu as shown to the left. Select AUDIO LANGUAGE using the Navigation (▲,▼) buttons 1. then press the ENTER button 2: the Language options will appear. Select the desired language using the Navigation (▲,▼) buttons **①**, then press the ENTER button 2. The disc must be recorded in the selected language. otherwise the default language of the disc will be played.

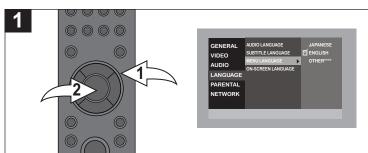
SUBTITLE LANGUAGE



Use this option to select the language the Subtitle will be in. Select the Language menu as shown above. Select SUBTITLE LANGUAGE using the Navigation (▲, ▼) buttons ●, then press the ENTER button ②; the Language options will appear. Select the desired language using the Navigation (▲,▼) buttons ①, then press the ENTER button ②.

The disc must be recorded in the selected language, otherwise the default language of the disc will be shown.

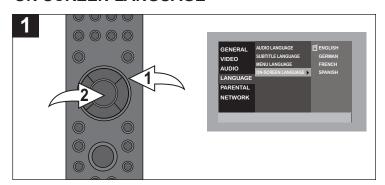
MENU LANGUAGE



Use this option to select the language the Disc Menu will be in. Select the Language menu as shown above. Select MENU LANGUAGE using the Navigation (▲,▼) buttons •, then press the ENTER button @; the Language options will appear. Select the desired language using the Navigation (▲,▼) buttons **①**, then press the ENTER button **②**.

The disc must be recorded in the selected language, otherwise the default language of the disc will be shown.

ON SCREEN LANGUAGE



Use this option to select the desired language for the On-Screen display to display text.

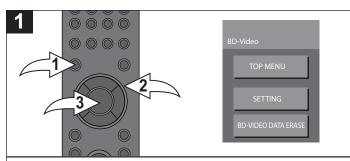
Select the Language menu as shown above. Select ON-SCREEN LANGUAGE using the Navigation (▲,▼) buttons

- ●, then press the ENTER button ②; the Language options will appear. Select the desired language using the Navigation
- (▲,▼) buttons **①**, then press the ENTER button **②**.

NOTE: Select OTHER if your language is not listed, or ORIGINAL to hear the language recorded on the DVD.

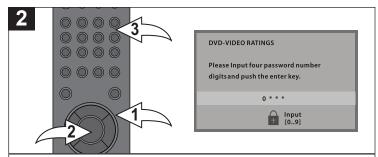
PARENTAL CONTROL OPTIONS

SETTING DVD-VIDEO RATINGS



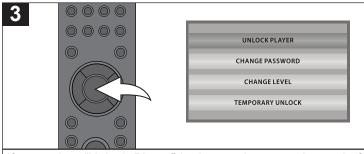
Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

Select PARENTAL using the Navigation (\blacktriangle , \blacktriangledown) buttons ②, then press the ENTER button ③ to enter the General menu.

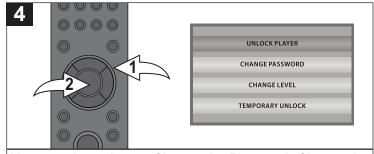


Using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , select DVD-VIDEO RATINGS and then press the ENTER button \bullet . A window will appear that asks you to enter the Password. Enter the four-digit password using the Number (0-9) buttons \bullet . The default password is "1234", but it can be changed as per the instructions on page 26. Then press the ENTER button \bullet . After entering the Password, select "Change Level" and press the ENTER button \bullet . Select the desired rating level as defined below using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet .

- 0 PROHIBITS play of all movies
- 1 KIDSAFE: Suitable for all children
- **G**: General Audiences
- 3 PG: Parental Guidance
- 4 PG 13: Parental Guidance for children under 13 years old
- **5 PGR**: Under 17 years old, Parental Guidance suggested
- 6 R: Under 17 years old, Parental Guidance strongly suggested
- 7 NC17: 17 years old and above
- 8 ADULT: Adult only



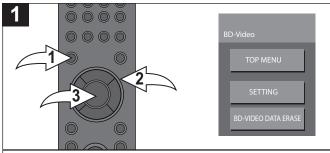
If you select "Unlock Player" in the previous step instead of "Change Level", a window will appear that asks you to press the Enter button. Press the ENTER button and the rating level will change to "8" automatically.



You can also select to Change the Password, Change the DVD-Video Ratings Level or Temporarily Unlock the player, by using the Navigation (\triangle , \blacktriangledown) buttons \bullet and then pressing the ENTER button \bullet .

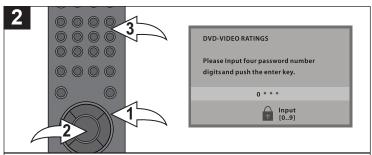
NOTE: If you enter the password incorrectly (the Parental sub-menu will not appear), just press the Navigation (◄) button to cancel the previous number and re-enter the password correctly.

SETTING BD-VIDEO AGE LIMIT

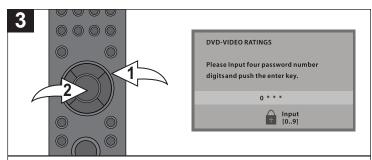


Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

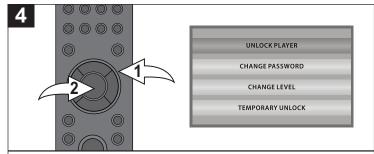
Select PARENTAL using the Navigation (\blacktriangle , \blacktriangledown) buttons ②, then press the ENTER button ③ to enter the Parental menu.



Using the Navigation (\blacktriangle , \blacktriangledown) buttons \odot , select BD-VIDEO AGE LIMIT and then press the ENTER button \odot ; the Password screen will appear. Enter the four-digit password using the Number (0-9) buttons \odot . The default password is "1234", but it can be changed as per the instructions on page 26. Then press the ENTER button \odot . After entering the Password, select "Change Level" and press the ENTER button \odot . Select the desired rating level using the Navigation (\blacktriangle , \blacktriangledown) buttons \odot .



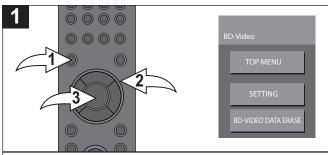
If the level was already set to "No Limit", press the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet to change the level directly and press the Enter button \bullet . The Password screen will appear. Enter the four-digit password as above. When done, press the ENTER button \bullet .



You can also select to Unlock the Player, Change the Password, Change the DVD-Video Ratings Level or Temporarily Unlock the player, by using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet and then pressing the ENTER button ②.

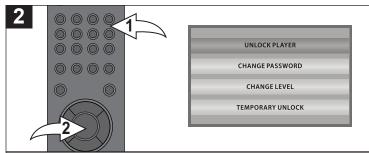
NOTE: If you enter the password incorrectly (the Parental sub-menu will not appear), just press the Navigation (◄) button to cancel the previous number and re-enter the password correctly.

SETTING PARENTAL PASSWORD



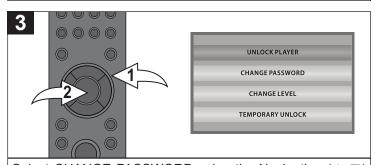
Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

Select PARENTAL using the Navigation (\blacktriangle , \blacktriangledown) buttons ②, then press the ENTER button ③ to enter the Parental menu.

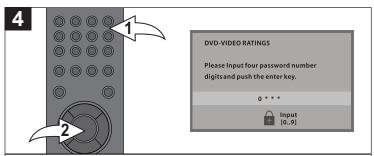


Follow the steps on page 24 to access the DVD VIDEO RATINGS. After completing, the next time you attempt to go to the DVD-VIDEO RATINGS menu, it will again prompt you to enter a password. Enter it using the Number (0-9) buttons **①**. Then press the ENTER button **②**; the Parental sub-menu will appear.

NOTE: You can change the Password in either DVD rating or BD rating.

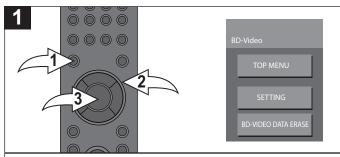


Select CHANGE PASSWORD using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet ; the Change password screen will appear.



Enter the desired four-digit password using the Number (0-9) buttons **1** then press the ENTER button **2**. This will be your new password. Press the ENTER button **2** again to return to the Parental Menu.

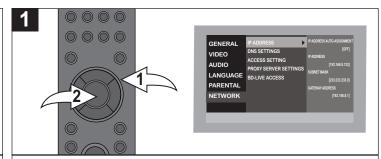
NETWORK SETUP MENU



Press the SETUP button \bullet and the BD-Video Menu will appear. Select SETTING using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet to enter the Main menu.

Select NETWORK using the Navigation (▲,▼) buttons ❷, then press the ENTER button ❸ to enter the Network menu. **IMPORTANT**: Make sure you are connected to the internet; see page 15.

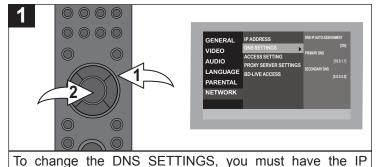
IP ADDRESS



Select the Network menu as shown to the left. Select NETWORK using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet . Select IP ADDRESS using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet . Select IP ADDRESS AUTO-ASSIGNMENT, using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then turn this option ON and the IP ADDRESS, SUBNET MARK and GATEWAY ADDRESS will automatically be set based on the internet connection. Select OFF using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \bullet , then press the ENTER button \bullet to manually set this information.

IMPORTANT: It is recommended to leave this option ON unless you are knowledgeable in network settings.

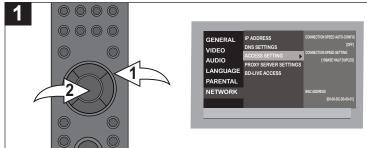
DNS SETTINGS



ADDRESS AUTO-ASSIGNMENT (above) set to OFF. Select the Network menu as shown above. Select NETWORK using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Select DNS SETTINGS using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet then press the ENTER button \bullet . Select DNS-IP AUTO ASSIGNMENT using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet . Turn this option ON and the PRIMARY DNS and SECONDARY DNS will automatically be set based on the internet connection. Select OFF using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet to manually set the Primary and Secondary DNS.

IMPORTANT: It is recommended to leave this option ON unless you are knowledgeable in network settings.

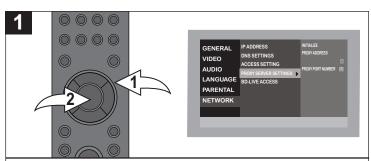
ACCESS SETTING



Select the Network menu as shown above. Select NETWORK using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P , then press the ENTER button \P . Select ACCESS SETTING using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P then press the ENTER button \P . Select CONNECTION SPEED AUTO-CONFIG using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P , then press the ENTER button \P . Turn this option ON and the CONNECTION SPEED SETTING will automatically be set based on the internet connection. Select OFF using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons \P , then press the ENTER button \P to manually set this information.

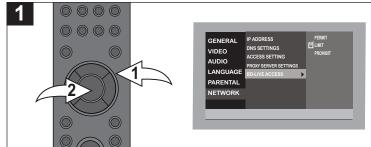
IMPORTANT: It is recommended to leave this option ON unless you are knowledgeable in network settings.

PROXY SERVER SETTINGS



Select the Network menu as shown above. Select NETWORK using the Navigation ($\blacktriangle, \blacktriangledown$) buttons •, then press the ENTER button •. Select PROXY SERVER SETTINGS using the Navigation ($\blacktriangle, \blacktriangledown$) buttons • then press the ENTER button •. Select one of the options (INITIALIZE, PROXY ADDRESS or PROXY PORT NUMBER) to change using the Navigation ($\blacktriangle, \blacktriangledown$) buttons •, then press the ENTER button •. Change the setting as desired.

BD-LIVE ACCESS



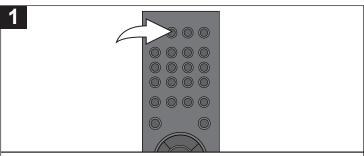
Select the Network menu as shown above. Select NETWORK using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet , then press the ENTER button ②. Select BD-LIVE ACCESS using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet then press the ENTER button ②. Using the Navigation ($\blacktriangle, \blacktriangledown$) buttons \bullet , select PERMIT to permit all BD-Live Access, LIMIT to limit the access to BD-Live content that has certificates only, or PROHIBIT to deny all access and then press the ENTER button ② to set.

BASIC OPERATION (GENERAL)

IMPORTANT:

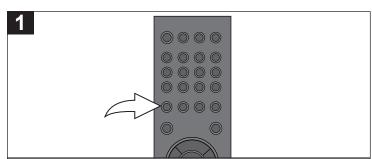
When "\overline{\Omega}" appears while pressing a button, this means that the corresponding function cannot be performed either on the disc inserted, or in the selected mode.

HDMI RESET



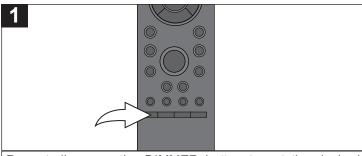
When connected via the HDMI cable, press the HDMI reset button to reset the unit to 480p resolution. This is useful after changing the resolution to one that the TV does not view properly.

COLOR BUTTONS



These buttons are used as shortcuts for some on-screen items when viewing Blu-ray Discs (can also be used for BD-Live's Java interactive operations).

DIMMER



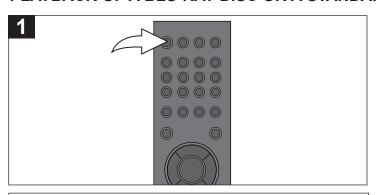
Repeatedly press the DIMMER button to set the desired display's lighting.

IMPORTANT NOTES:

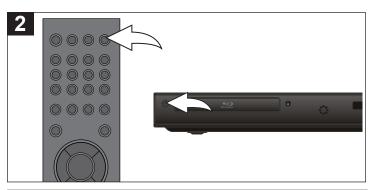
- After plugging in, the unit will be in the Standby mode and the POWER/STANDBY button light will be red. Press the POWER/STANDBY button to turn on the unit; the POWER/STANDBY button light will be blue. Loading will take about 30 seconds.
- Always hold the disc without touching either of its surfaces. When inserting a disc, position it with the printed title side facing up, align it with the guides and place it in its proper position.
- It is important that you read the manual that accompanies the disc as there are features that are on this player that cannot be used with certain discs. There are also extra features that are different for each disc, so they are not explained in this owner's manual.

BD/DVD OPERATION

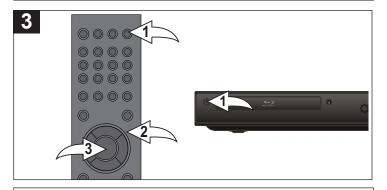
PLAYBACK OF A BLU-RAY DISC OR A STANDARD DVD



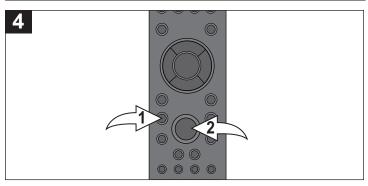
Press the POWER/STANDBY button to turn on the unit. The POWER/STANDBY button will light blue.



Press the OPEN/CLOSE button to open the disc tray, "OPEN" will appear on the screen. Insert a disc with the label side facing up on the disc tray.



Press the OPEN/CLOSE button 1 to close the disc tray. "CLOSE" then "READING" will briefly appear on the screen. After loading, the menu screen of the disc should appear. Use the Navigation $(\blacktriangleleft, \blacktriangleright, \blacktriangle, \blacktriangledown)$ buttons 2 to select the desired option and the ENTER button 3 to select it.

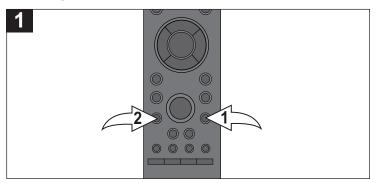


To stop playback, press the STOP (■) button ①. Because the unit will remember where you stopped, simply press the PLAY ▶ button ② to resume playback where you left off (resuming playback).

If the STOP (■) button ● is pressed again, the unit will enter the Stop mode.

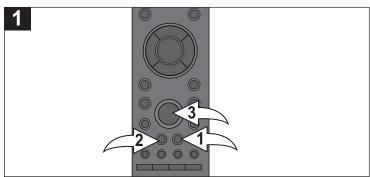
- If the player is not in BD/DVD mode, press the USB/SD button repeatedly to select BD mode to playback the disc.
- If a Menu appears on the TV screen, press the Navigation (◄,►,▲,▼) buttons to select the desired option/item, then press the ENTER button. Please make sure to refer to the disc's jacket or case for additional information.
- Resuming playback may not work on all discs.
- With some discs, the Media Type Select menu may appear after reading the disc. Press the ENTER button to confirm the playback.

SKIP W/SKIP K



Press the SKIP \bowtie button ② to move the disc to the beginning of the previous chapter.

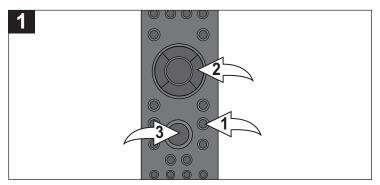
SEARCH



During playback, press either the Search/FWD $\blacktriangleright \blacktriangleright \bullet$ or Search/REV $\blacktriangleleft \blacktriangleleft \bullet$ button to move the disc forward or backward at double (x2) speed to locate a specific section. Repeatedly press these buttons and the speed will increase to x4, x8, x16 and x32.

Resume normal playback by pressing the Play button **3**.

PAUSE/STEP

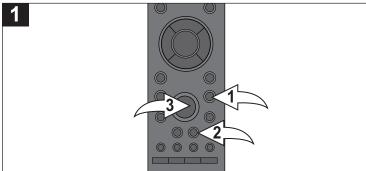


Press the PAUSE II button • to pause the picture.

Repeatedly press the Navigation ▶ button ② to move the frame forwards one frame at a time.

Press the PAUSE ■ button • again or the PLAY ► button • to resume normal playback.

SLOW MOTION



Press the PAUSE II button **1** to pause the picture.

Press the Search/FWD ▶▶ ② button to move the disc forward at slow motion (1/32) speed to locate a specific section. Repeatedly press this button and the speed will increase to 1/16, 1/8, 1/4 and 1/2.

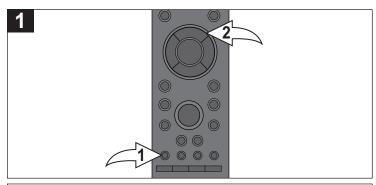
Press the PLAY ▶ button **3** to resume normal playback.

DISC MENU BUTTON

Press the DISC MENU button to go to the title menu.

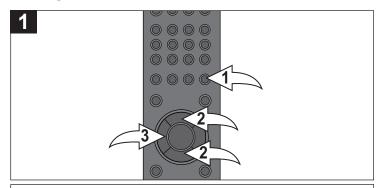
Depending on the disc, the Title Menu may not be available.

AUDIO



Press the AUDIO \bullet button repeatedly, or the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet after the AUDIO button is pressed, to change the audio language. This feature is not available on all discs.

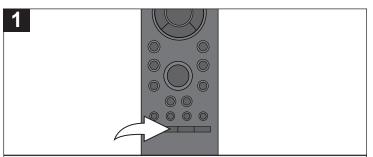
TIME SEARCH



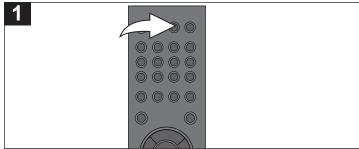
Press the SEARCH button \bullet once; the Time Search will appear. Select the time you would like to advance forward or backwards in minutes using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet ; the disc will then advance/go back the number of minutes selected.

SKIP BUTTON

DISPLAY/INFO BUTTON



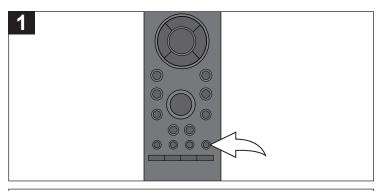
Press the SKIP button to advance the disc 30 seconds.



Press the DISPLAY/INFO button to view the playing title, chapter, elapsed time, remaining time, disc type and Play status. Press again to remove the info from the screen.

PIP (PICTURE IN PICTURE)

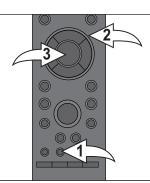
Some BD discs have Picture in Picture capability.



While viewing a disc (Blu-ray only) that has PIP capability, press the PIP button to view the picture in picture. Press again to disable.

SUB MENU BUTTON

1



When the SUB MENU button \bullet is pressed, a sub menu appears. The content depends on the disc and will include DISC, PLAYBACK, VIDEO and AUDIO categories. Select a category using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons 0, then press the ENTER button 0; the options will appear. Select the desired option using the Navigation $(\blacktriangle, \blacktriangledown)$ buttons 0, then press the ENTER button 0. Once a category has been selected, the Navigation $(\blacktriangleleft, \blacktriangleright)$ buttons 0 may also be used to advance to the next column or return to the previous column of options.

Some examples are Subtitle, Angle, Repeat, Progressive, Closed Captions, etc.

While the Sub menu is dependent on the disc used, some of the options are outlined below.

DISC

SOUNDTRACK: Select the desired soundtrack.

SIGNAL TYPE: Select the Primary and Secondary video and audio as desired. **SUBTITLE INFO:** Turn the Subtitle on or off and select the desired language.

SUBTITLE STYLE: When available, select the desired subtitle style and formatting. **ANGLE:** When the disc has more than one angle recorded, select the desired angle.

PLAYBACK

REPEAT: Select to repeat the current TITLE, CHAPTER or turn Repeat OFF.

VIDEO

PICTURE: Select the desired picture setting (NORMAL, SOFT (Soft picture, smoother video), FINE (Sharper details), CINEMA (Mellows movies, enhances details in dark scenes) or USER). Select USER to set the picture settings manually. **PROGRESSIVE:** Select the desired Progressive setting: Auto 1, Auto 2 or Video. Select one of the Auto options to automatically detect the film/video content and appropriately convert it. Select Video when the content is distorted even if Auto was selected.

CLOSED CAPTION: Use this to turn the Closed Captions OFF, On (CC), XDS or CC & XDS.

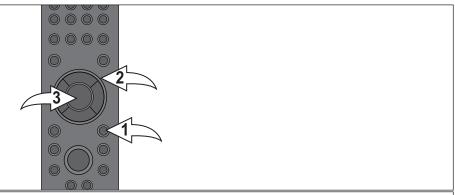
AUDIO

CINEMA VOICE: Use this option to turn cinema voice ON or OFF. Turn on to make the dialogue in movies easier to hear. Turn Off to deactivate Cinema Voice.

NOTE: The above is a sampling of options available; some discs will have more or less options then shown above.

POPUP MENU





Press the POPUP MENU button \bullet to display the Pop Up menu while the BD disc is playing back. You can select various functions from this Pop Up menu. Use the Navigation $(\blacktriangleleft, \blacktriangleright, \blacktriangle, \blacktriangledown)$ buttons ② to select the desired option and press the ENTER button ③ to select it.

Some examples:

DISPLAY MODE: After selecting, you can choose between the following:

NORMAL: Normal viewing.

SIDE CUT: When viewing a video with black bars at the sides, select SIDE CUT to stretch the picture to fit the screen and remove the black bars.

ZOOM: When viewing a video with black bars at the top and bottom, select ZOOM to clear the black bars and zoom in the video.

TOP MENU: Select to return to the disc's main Title screen. Some discs cannot return to the Title screen.

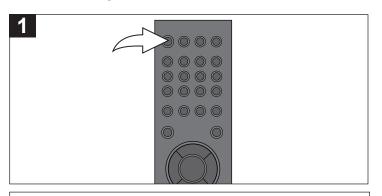
POP UP MENU: Select and the Pop Up Menu will appear, which will vary from disc to disc, but usually includes a button for the Main Menu, Settings, Languages, Scene Selections, Special Features, etc. If no selection is made after about ten seconds, the Pop Up menu will disappear.

Press the RETURN button of or the POPUP MENU button of again to return to the previous viewing section.

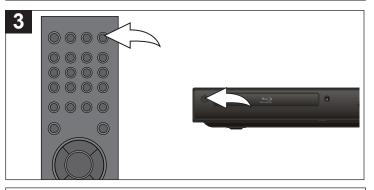
This function is not available on all discs.

CD OPERATION

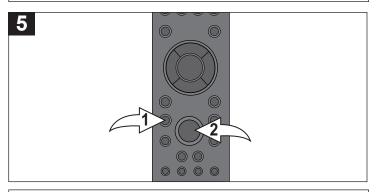
PLAYBACK OF A CD



Press the POWER/STANDBY button to turn on the unit. The POWER/STANDBY button will light blue.

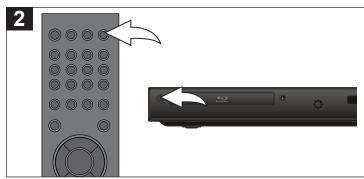


Press the OPEN/CLOSE button to close the disc tray. "CLOSE" then "READING" will appear briefly on the screen. After loading, Track 1 will automatically start playing.

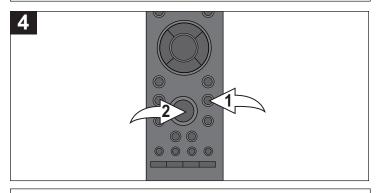


To stop playback, press the STOP (■) button ①. Because the unit will remember where you stopped, simply press the PLAY ▶ button ② to resume playback where you left off (resuming playback).

If the STOP (■) button **①** is pressed again, the unit will enter the Stop mode.



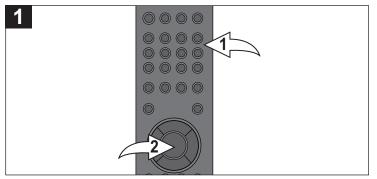
Press the OPEN/CLOSE button to open the disc tray, "OPEN" will appear on the screen. Insert a disc with the label side facing up on the disc tray.



Press the PAUSE button **①** to pause playback. Press the PAUSE button **①** again or the PLAY ▶ button **②** to resume playback.

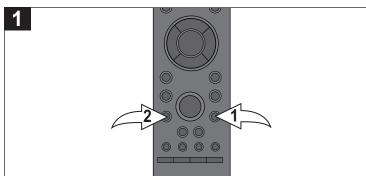
CD OPERATION (CONTINUED)

SELECTING TRACKS USING THE NUMBER BUTTONS



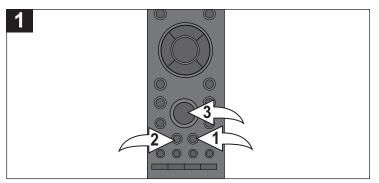
Press the Number buttons ① corresponding to the track number you would like to play, then press the ENTER button ② and the unit will playback the desired track automatically.

SELECTING TRACKS USING THE SKIP ₩ OR ₩ BUTTON



During playback, press the SKIP ▶ ① or ₩ ② button to select the next or previous track to be played.

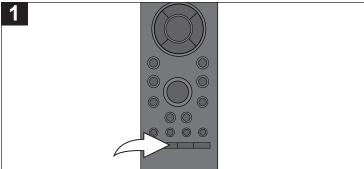
FORWARD ► | REVERSE | SEARCH



During playback, press either the Search/FWD $\blacktriangleright \blacktriangleright \bullet$ or Search/REV $\blacktriangleleft \blacktriangleleft \bullet$ button to move the disc forward or backward at double (x2) speed to locate a specific section. Repeatedly press these buttons and the speed will increase to x4, x8, x16 and x32.

Resume normal playback by pressing the Play button **3**.

SKIP BUTTON

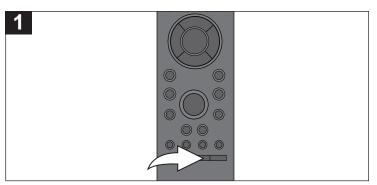


Press the SKIP button to advance the disc 30 seconds.

CD OPERATION (CONTINUED)

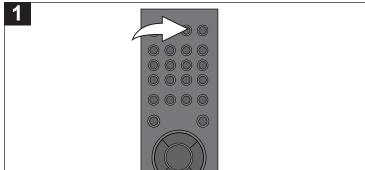
A-B REPEAT PLAYBACK

While playing back a CD, this unit can repeatedly play back a specific section.



While in the Playback mode, press the Repeat A-B button to define where you want the section to start. Press the Repeat A-B button again to define where you would like the section to end; the unit will then play the selected area continuously. Press the Repeat A-B button again to cancel A-B Repeat mode.

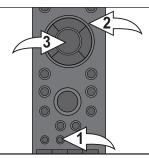
DISPLAY/INFO BUTTON



Press the DISPLAY/INFO button to view the playing track, elapsed tracks time, remaining track time, remaining disc time and Play status. Press again to remove the info from the screen.

SUB MENU BUTTON

1



When the SUB MENU button \bullet is pressed, a sub menu appears. Select a category using the Navigation (\blacktriangle , \blacktriangledown) buttons 2, then press the ENTER button 3; the options will appear. Select the desired option using the Navigation (\blacktriangle , \blacktriangledown) buttons 2, then press the ENTER button 3. Once a category has been selected, the Navigation (\blacktriangleleft , \blacktriangleright) buttons 2 may also be used to advance to the next column or return to the previous column of options.

While the Sub menu is dependant on the disc used, some of the options are outlined below.

PLAYBACK

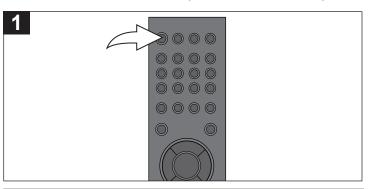
REPEAT: Select to repeat the current ALL, TRACK, RANDOM (to select the Randomly shuffle the tracks) or turn Repeat OFF. **AUDIO**

SOUND EFFECT: Use this option to set the desired Surround Sound Effect (Surround Strong or Surround Normal). **CINEMA VOICE:** Use this option to turn cinema voice ON or OFF. Turn on to make the dialogue in movies easier to hear. Turn Off to deactivate Cinema Voice.

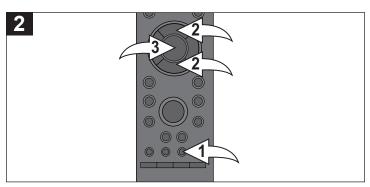
NOTE: Some of these items are listed under CD, but are not compatible with CDs.

DATA CD/USB/SD CARD OPERATION

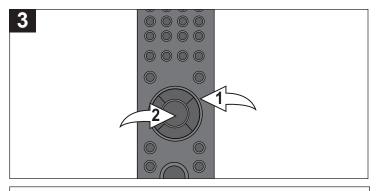
PLAYBACK OF A DATA (PICTURE, AUDIO) DISC/USB/SD CARD



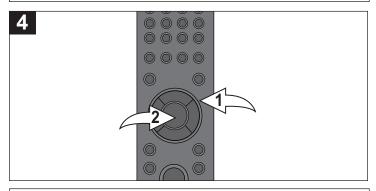
Press the POWER/STANDBY button to turn on the unit. The POWER/STANDBY button will light blue.



TO PLAY A USB/SD CARD: Insert a USB device or SD Card with data files and press the USB/SD button \P , Select USB or SD using the Navigation (\P , \P) buttons \P and then press the ENTER button \P ; the Folder/File menu will appear.



TO PLAY A DATA DISC: Insert a disc with data files. Data files can be audio files or pictures. See the specifications for details on the file formats allowed. If the unit is in SD or USB mode, select BD using the Navigation (\blacktriangle , \blacktriangledown) buttons \blacksquare and then press the ENTER button \boxdot ; the Folder/File menu will appear.



The list of files on the disc will appear. (If the disc has folders, then a list of folders will appear.) Use the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet to select the desired file or folder and then press the ENTER button \bullet to start playback or enter the folder. Select the ".." icon (at the top of the Folder/File list) to return to the previous folder.

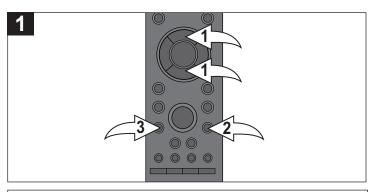
See the following pages to view/play the desired formats:

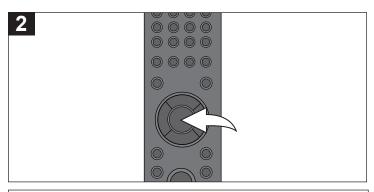
MP3/WMA: See the following page.

Photos (JPEG): See page 41.

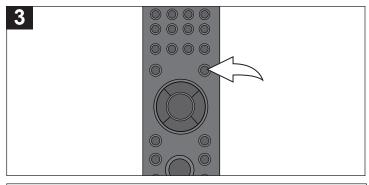
DATA CD/USB/SD CARD OPERATION (CONTINUED)

MP3/WMA

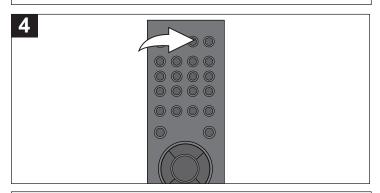




After an MP3/WMA file is selected, press the ENTER button. The selected file will start playing.



TO RETURN TO THE FILE/FOLDER MENU, simple press the DISC MENU button.



DISPLAY/INFO BUTTON: Press the DISPLAY/INFO button to view the elapsed time, remaining time, disc type and Play status. Press again to remove the info from the screen.

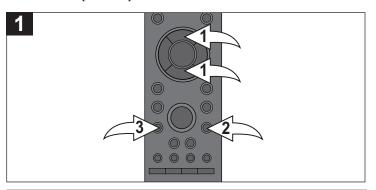
NOTE:

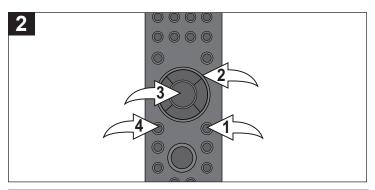
The Skip, 30 second Skip, Search, Search feature (SEARCH button), Pause and Repeat A-B buttons will operate as described previously.

SUB MENU BUTTON: Pressing the SUB MENU button will bring up the same Sub menu as shown on page 38. Change the settings as desired.

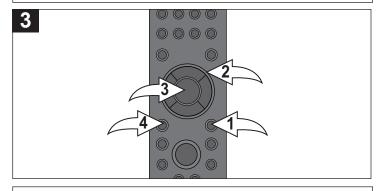
DATA CD/USB/SD CARD OPERATION (CONTINUED)

PHOTOS (JPEG)

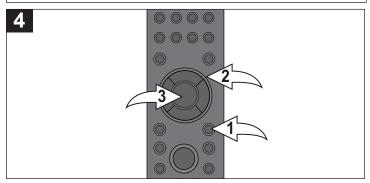




CONTENTS INFORMATION: Press the POPUP MENU button **①**; the Pop Up menu will appear. Select CONTENTS INFORMATION using the Navigation (▲,▼) buttons **②**, then press the ENTER button **③** to view information about the selected file. Press the RETURN button **④** to return to the file/folder menu.



SLIDESHOW SETUP: Press the POPUP MENU button lacktriangledge; the Pop Up menu will appear. Select SLIDESHOW SETUP using the Navigation (lacktriangledge A, lacktriangledge V) buttons lacktriangledge V, then press the ENTER button lacktriangledge V. You can now set the desired Interval Time between photos and/or turn Repeat mode On or Off. Press the RETURN button lacktriangledge V to return to the file/folder menu.



SLIDESHOW START/CONTINUE: Press the POPUP MENU button \bullet ; the Pop Up menu will appear. Select SLIDESHOW START to start or SLIDESHOW CONTINUE to continue a slideshow using the Navigation (\blacktriangle , \blacktriangledown) buttons \bullet , then press the ENTER button \bullet .

NOTE:

The Skip buttons and Pause buttons will operate as described previously.

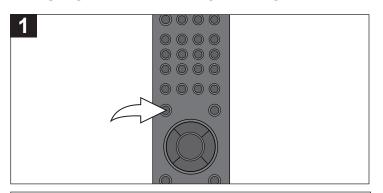
ZOOM: Repeatedly press the ZOOM button to zoom in x2, x4 and the normal viewing.

NOTE: The Zoom function is available for Photo (JPEG) playback only.

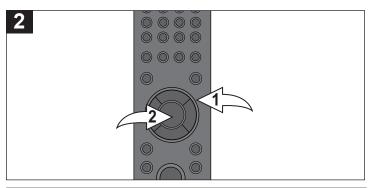
ROTATE: During playback, press the POPUP MENU button; the Pop Up menu will appear. Select ROTATE RIGHT or ROTATE LEFT using the Navigation (\blacktriangle , \blacktriangledown) buttons, then press the ENTER button to rotate the selected picture.

DATA CD/USB/SD CARD OPERATION (CONTINUED)

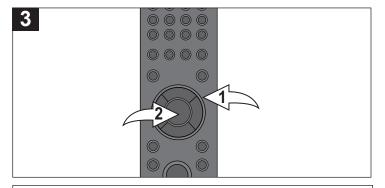
ERASING BD-LIVE DATA ON THE SD CARD



When the SD card is inserted, press the SETUP button and the Setup menu will appear.



Select BD-VIDEO DATA ERASE using the Navigation (▲, ▼) buttons ①, then press the ENTER button ②.



Select START using the Navigation $(\blacktriangleleft, \blacktriangleright)$ buttons ①, then press the ENTER button ② to erase the BD-Live Data or CANCEL to cancel the request.

NOTE

You can erase the BD-Live data on the SD CARD only.

FIRMWARE

UPDATING THE FIRMWARE

The Firmware can be updated with a CD or DVD only.

Follow these steps to update the Firmware:

- 1. To obtain the latest version of the Firmware please visit our website at: www.memorex.com
- 2. Copy the Firmware to a CD or DVD.
- 3. Insert the disc and close the disc compartment.
- 4. The unit will automatically update the Firmware and then open the disc compartment.
- 5. Remove the disc, then turn off the unit and turn it back on again.

TROUBLESHOOTING GUIDE

Check the following before requesting service:

SYMPTOM	POSSIBLE CAUSE	POSSIBLE SOLUTION
GENERAL		
No power.	AC cord unplugged.	Plug in the AC cord to an AC outlet.
Power on, but unit not functioning	Condensation has formed.	Unplug the unit and wait about one to
properly.		two hours to allow the player to dry.
	Wrong type of disc inserted.	This unit cannot play discs, other than
		those listed on page 17.
	Unit needs to be reset.	Press the POWER/STANDBY button,
		then unplug the power cord. Wait one
		minute and then plug the unit back in.
	The disc is dirty or inserted incorrectly.	Clean disc and insert label side-up.
	Some features and functions are not	This is normal; try another function.
	available on all discs.	
No picture.	The equipment is not connected properly.	Connect the equipment according to
		the instructions in this manual.
	The INPUT of the TV is not set to receive	Select the appropriate video input
	the disc signal output.	mode, usually VIDEO or AV.
	The video cables are not securely	Connect the video cables securely.
	connected.	
	The connected TV power is off.	Turn the TV on.
No sound.	The equipment is not connected properly.	Connect the equipment according to
		the instructions in this manual.
	The equipment connected with the audio	Select the appropriate audio input
	cable is not set to receive the disc signal	mode.
	input.	
	The audio cables are not securely	Connect the audio cables securely.
	connected.	
	The connected receiver's power is off.	Turn the audio receiver on.
Playback picture rolls.	Unit needs to be reset to NTSC.	Set unit to NTSC.
The playback picture is poor.	The disc is dirty.	Clean the disc.
The Search feature is not working.	Some discs have sections that do not	This is normal on some discs.
The picture is not fitting properly	allow searching.	Select the correct TV type (PS, LB, WIDE)
The picture is not fitting properly.	Wrong menu option is selected in the	
The remote control is not working.	Setup menu. The batteries are weak or dead.	which matches the TV you are using. Install fresh batteries.
The remote control is not working.	The batteries are weak of dead. The batteries are not installed properly.	Install batteries according to the diagram.
	The remote is not aimed at the sensor.	Aim the remote at the sensor.
	Distance is too far or there is too much	Operate within 20 ft., or reduce the light
	light in the room.	in the room.
	There is an obstacle in the path of the	Remove the obstacle.
	beam.	remove the obstacle.
The Preferences menu cannot be	There is a disc in the disc tray.	Remove the disc from the disc tray, as
accessed (it is dimmed) in the		there cannot be a disc inserted when
Setup menu.		setting the preferences.
- C-14p 11.01.4.		Colling the professioner.

TROUBLESHOOTING GUIDE (CONTINUED)

SYMPTOM	POSSIBLE CAUSE	POSSIBLE SOLUTION
DISCS		
The unit does not start playback.	Disc not inserted, or inserted upside-down.	Insert disc correctly.
	A non-playback disc is inserted.	Make sure to insert a playable disc as shown on page 17.
	The disc is not placed in the guide.	Place the disc on the disc tray correctly inside the guide.
	The disc is dirty.	Clean the disc.
Some functions do not operate as	Some features and functions are not	This is normal; try another function.
stated.	available on all discs.	
Selected language is not being	If the audio or subtitle language does not	This is normal; try another disc.
shown in the subtitles, or spoken.	appear on the disc, then the initial setting will not be seen/heard.	
Subtitles are not working properly.	Subtitles appear only when the discs contain them.	This is normal; try another disc.
	Subtitles not turned on.	Turn the subtitles on.
Angle cannot be changed.	Angles may not be recorded on the disc (see disc jacket/case), or they may only be recorded on certain scenes.	Try another disc, or wait for a scene which allows a different camera angle.
TV display shows "No Signal" or is blank.	Some TVs do not support 1080i output.	Connect Video Out as shown on page 9.

TROUBLESHOOTING FOR BD-LIVE

If you receive an error stating you do not have enough storage space for a download, connect the media to your computer and remove some of the files, completely erase the media (see page 42) or insert different media with enough storage.

If you receive an error while downloading, try the following:

The BD-Live server may be busy or may not be in service. Please try downloading your content again at another time.

To update the Firmware please visit our website at: www.memorex.com

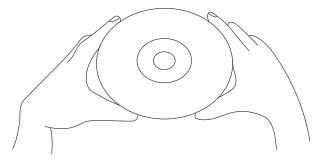
FOR ADDITIONAL SET-UP OR OPERATING ASSISTANCE, PLEASE VISIT OUR WEBSITE AT: WWW.MEMOREX.COM

FOR CONSUMER REPLACEABLE PART(S), SEE PART NUMBER(S) ON PAGE 7, AND THEN CONTACT FOX INTERNATIONAL AT: 1-800-321-6993.

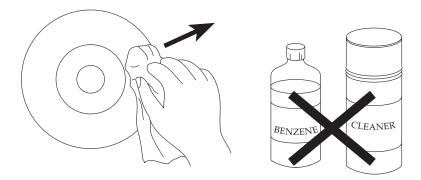
CARE AND MAINTENANCE

Caring for Discs

• Treat the disc carefully. Handle the disc only by its edges. Never allow your fingers to come in contact with the shiny, unprinted side of the disc.



- Do not attach adhesive tape, stickers, etc. to the disc label.
- Clean the disc periodically with a soft, lint-free, dry cloth. Never use detergents or abrasive cleaners to clean the disc. If necessary, use a CD cleaning kit.
- If a disc skips or gets stuck on a section of the disc, it is probably dirty or damaged (scratched).
- When cleaning the disc, wipe in straight lines from the center of the disc to the outer edge of the disc. Never wipe in circular motions.



- Discs should be stored in their cases after each use to avoid damage.
- Do not expose discs to direct sunlight, high humidity, high temperatures or dust, etc. Prolonged exposure or extreme temperatures can warp the disc.
- Do not stick or write anything on either side of the disc. Sharp writing instruments, or the ink, may damage the surface.

Cleaning the Unit

- To prevent fire or shock hazard, disconnect your unit from the AC power source when cleaning.
- The finish on your unit may be cleaned with a dust cloth and cared for as other furniture. Use caution when cleaning and wiping the plastic parts.
- Mild soap and a damp cloth may be used on the front panel.

SPECIFICATIONS

Power Requirements	AC120V, 60Hz			
Power Consumption	<25W (approx. 1W when set to Standby mode)			
Weight	9.3 Lbs			
Dimensions	16.9 (W) x 9.8 (D) x 2.1 (H) inches			
Weight and dimensions are approximate.				
Operating Temperature	5°C to 35°C			
Operating Humidity Range	10% to 75% (no condensation)			
Format				
Disc Support	BD (405nm), DVD (650nm), CD (780nm)			
Video Format	AVC (H.264), VC-1, MPEG-2			
Audio FormatDTS, DTS-HD, Dolby Digita	ıl, Dolby Digital Plus, Dolby True HD, Linear PCM			
Video Output				
Composite	(75Ω Load) 1 channel: 1.0 Vp-p			
	Blu-ray: 480i			
	DVD: 480i			
Component(7	5Ω Load) Y: 1.0Vp-p, Pr: 0.70Vp-p, Pb: 0.70Vp-p			
	Blu-ray: 1080i			
	DVD: 1080i			
Audio/Video Output				
HDMI	1080p, 1080p24, 1080i, 720p, 480p, 480i			
PCM	Multichannel Audio, Bitstream Audio, PCM Audio			
Audio Output				
Digital Audio Output	Optical/Coaxial			
Frequency Response48kHz Sampling	g: 4Hz to 22kHz / 96kHz Sampling: 4Hz to 22kHz			
S/N Ratio				
Dynamic Range85dB				
Total Harmonic Distortion				

Specifications are subject to change without notice.